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scroll through functions and select a desired function via the thumb wheel 13 and not even have to look at the screen while doing such.

Furthermore, it will be appreciated that quickly double clicking the thumb wheel 13 can also accomplish a predetermined task such as selecting a plurality of items such as the function identified by the cursor and a predetermined number of functions below the highlighted function.

Moreover, it will be appreciated that the thumb wheel 13 can also be used to change characteristics of the mobile terminal 10 such as the contrast or brightness of the screen display. For instance, a function (e.g., FUNCTION₆) could be user programmed which varies features of the screen display. Once a user selects this function, a new screen may be displayed which provide for changing particular screen characteristic such as, for example: (6i) screen brightness; (6ii) screen contrast; (6iii) color; (6iv) cursor brightness, etc.

Furthermore, since the mobile terminal 10 is user programmable, it will be appreciated that commercial programs or user programs could be loaded into the mobile terminal via a PCMCIA card into a PCMCIA card slot (not shown) of the mobile terminal or any other conventional means.

The present invention includes all such equivalents and modifications, and is limited only by the scope of the following claims.

What is claimed is:

1. A hand held mobile device, the mobile device comprising:

- a housing;
- a user programmable processor within the housing;
- a display operatively coupled to the processor, the display being controlled by the processor to display a plurality of functions relating to operation of the mobile device;
- a thumb wheel extending from the housing, the thumb wheel including: a wheel portion rotatable about an axis, the wheel portion being selectably rotatable about the axis to facilitate a user selecting at least one function from the plurality of functions displayed on the display, the wheel portion being transaxially moveable and wherein transaxial movement of the wheel portion initiates selection of the at least one function; and

- a control circuit operatively coupled to the thumb wheel, wherein the control circuit provides at least one signal to the processor in response to movement of the wheel portion, the processor executing a predetermined routine corresponding to the at least one signal.

2. The mobile device of claim 1, wherein the thumb wheel further includes an encoding device for indicating movement of the wheel portion.

3. The mobile device of claim 1, wherein the processor can receive, store and execute programs input thereto by the user.

4. The mobile device of claim 1, wherein the wheel portion is rotatable in a clockwise direction to effect scrolling among the plurality of functions in a first direction and the wheel portion is rotatable in a counterclockwise direction to effect scrolling among the plurality of functions in a second direction.

5. The mobile device of claim 1, wherein the plurality of functions are split into groups, each group of functions being accessible by one of a plurality of menus selectable by the user via the thumb wheel.

6. The mobile device of claim 1, wherein the display displays a plurality of items stored by the mobile device.

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7. The mobile device of claim 6, wherein the thumb wheel is selectively moveable to allow a user to select at least one item of the plurality of items stored by the mobile terminal.

8. The mobile device of claim 1, wherein the mobile device produces a tone, among a plurality of producible tones, corresponding to a particular movement of the wheel portion.

9. The mobile device of claim 8, wherein the tone varies in pitch according to the corresponding particular movement of the wheel portion.

10. The mobile device of claim 1, wherein a user can change the contrast of a screen display of the mobile device via the thumb wheel.

11. A method of selecting among a plurality of functions executable by a user programmable mobile terminal, comprising the steps of:

using an interrupt generator to monitor a thumb wheel for movement of a wheel portion of the thumb wheel;

using the interrupt generator to generate an interrupt request upon movement of the wheel portion, and sending the interrupt request to an interrupt handler;

using the interrupt handler to inform a processor that an interrupt relating to movement of the wheel portion has occurred;

using the processor to determine what type of wheel portion movement has occurred, wherein the processor relates a particular wheel portion movement to at least one of the plurality of functions executable by the programmable mobile terminal; and

using the processor to perform a routine corresponding to the at least one of the plurality of functions executable by the programmable mobile terminal.

12. The method of claim 11, wherein the wheel portion is rotatable about an axis.

13. The method of claim 11, wherein the wheel portion is transaxially moveable.

14. The method of claim 11 wherein the processor can receive, store and execute programs input thereto by the user.

15. A mobile device, comprising:

a housing;

a user programmable processor within the housing, wherein the processor can receive, store and execute programs input thereto by the user;

a display coupled to the housing for displaying a plurality of programs executable by the mobile device; and

a thumb wheel received within the housing, the thumb wheel being employable to select at least one function among the plurality of functions displayed on the display, the thumb wheel including a wheel portion, an encoding device and a control circuit, wherein: the wheel portion is rotatable about an axis and transaxially moveable, wherein transaxial movement of the wheel portion initiates selection of the at least one function; the encoding device produces at least one signal indicative of movement of the wheel portion; and the control circuit is coupled to the encoding device for receiving the at least one signal from the encoding device and outputting a signal to the processor in response thereto, wherein

the processor performs a particular routine among a plurality of routines executable by the processor in response to the signal output by the control device.

16. A hand held mobile device, the mobile device comprising:

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- a portable housing;
 - a user programmable processor within the housing;
 - a display for displaying a plurality of functions executable by the mobile device;
 - a thumb wheel extending from the housing, the thumb wheel facilitating selection of at least one function of the plurality of functions displayed on the display, the thumb wheel including:
 - a wheel portion rotatable around an axis and transaxially moveable, wherein transaxial movement of the wheel portion initiates selection of the at least one function; and
 - a control circuit operatively coupled to the thumb wheel, wherein the control circuit provides a particular signal to the processor in response to a particular movement of the wheel portion, the processor executing a predetermined routine corresponding to the particular signal.
17. The mobile device of claim 16, wherein the display screen displays at least one function executable by the mobile device.
18. The mobile device of claim 17, wherein the movement of the wheel portion of the thumb wheel causes a cursor

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highlighting a function on the display screen to move to another function.

19. The mobile device of claim 18, wherein transaxial movement of the wheel portion causes the processor to perform operations associated with the highlighted function.

20. The mobile device of claim 19, wherein at least two successive depressions of the wheel in a transaxial direction within a predetermined period of time causes the cursor to highlight a predetermined function.

21. The mobile device of claim 20, wherein the wheel portion is rotatable in a clockwise direction to effect scrolling among the plurality of functions in a first direction and the wheel portion is rotatable in a counterclockwise direction to effect scrolling among the plurality of functions in a second direction.

22. The mobile device of claim 18, wherein an audible tone is sounded each time the cursor highlighting a function on the display screen is caused to move by movement of the wheel portion.

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